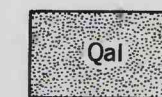


GEOLOGIC MAP OF YELM AREA, THURSTON AND PIERCE COUNTIES, WASHINGTON

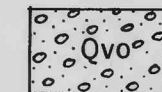
1 0 4 Miles
Contour interval 50 feet
Datum is mean sea level

EXPLANATION



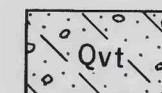
Alluvium

Silt, fine sand, and clay; coarse gravel and boulders at places. May yield considerable water, but seldom utilized.



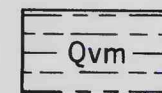
Recessional outwash

Gravel, sand, and some boulders, forming terraces and prairies. Deposited in outwash channels and plains by melt water from retreating glacier. Yields water prolifically at most places.



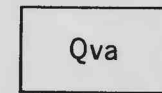
Till

Hard gray concretelike mixture formed chiefly as ground moraine. Blankets much of upland; commonly underlies sand and gravel in terraces and outwash plains. Mostly impervious, but yields some water from gravel and sand lenses.



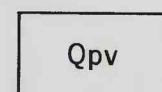
Moraine

Sand, gravel, and till deposited as end or recessional moraine around and between blocks of wasting Vashon ice. Sand and gravel yield water freely; morainal areas chiefly unpopulated; hence, ground water not extensively utilized.



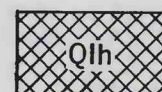
Advance outwash

Gravel, sand, and some silt, deposited in front of the advancing Vashon ice. Mostly very permeable; yield of wells depends on saturated thickness of sand and gravel.



Pre-Vashon deposits

Indurated sand, gravel, and till, deposited as outwash and ground moraine of valley glaciers from Cascade Mountains. The more permeable deposits yield moderate amounts of water.



Logan Hill formation

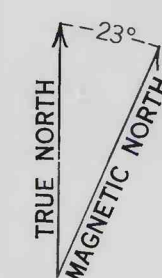
Indurated, rusty gravel and sand of volcanic-rock materials. Most outcrops deeply weathered. May yield some water from deeper, less weathered zones, but unimportant in area.



Undifferentiated sedimentary and volcanic rocks, lava flows, pyroclastics, conglomerate, siltstone, and shale. Includes Northcraft and McIntosh formations, undifferentiated, in Yelm area. Generally small yields; utilized by few wells.

Contact, dashed where approximately located

Scars, separating outwash terraces or plains, formed at different levels during successive stages of glacial retreat.



QUATERNARY

TERTIARY